What is claimed is:

1. An isolated polynucleotide comprising a nucleotide sequence selected from the group consisting of:

(a) the nucleotide sequence of SEQ ID NO:1 from nucleotide 803 to nucleotide 1999;

(b) a nucleotide sequence varying from the sequence of the nucleotide sequence specified in (a) as a result of degeneracy of the genetic code;

(c) an allelic variant of the nucleotide sequence specified in (a); and

(d) a fragment of (a) or (b) encoding a protein having the ability to bind IL-11.

2. The polynucleotide of claim 1 wherein said nucleotide sequence encodes for a protein having a biological activity of the human IL-11 receptor.

3. The polynucleotide of claim 1 wherein said nucleotide sequence is operably linked to an expression control sequence.

4. The polynucleotide of claim 2 comprising the nucleotide sequence of SEQ ID NO:1 from nucleotide 803 to nucleotide 1999.

5. The polynucleotide of claim 2 comprising the nucleotide sequence of SEQ ID NO:1 from nucleotide 803 to nucleotide 1828 or a fragment thereof.

6. The polynucleotide of claim 2 comprising the nucleotide sequence of SEQ ID NO:1 from nucleotide 1907 to nucleotide 1999 or a fragment thereof.

7. The polynucleotide of claim 1 comprising the nucleotide sequence of SEQ ID NO:1 from nucleotide 734 to nucleotide 1999.

8. The polynucleotide of claim 1 comprising the nucleotide sequence of SEQ ID NO:1 from nucleotide 1067 to nucleotide 1828.

9. The polynucleotide of claim 1 comprising the nucleotide sequence of SEQ ID NO:1 from nucleotide 1067 to nucleotide 1999.

10. A host cell transformed with the polynucleotide of claim 3.

11. The host cell of claim 8, wherein said cell is a mammalian cell.

12. A process for producing a human IL-11R protein, said process comprising:

(a) growing a culture of the host cell of claim 10 in a suitable culture medium; and

(b) purifying the human IL-11R protein from the culture.

13. An isolated human IL-11R protein comprising an amino acid sequence selected from the group consisting of:

(a) the amino acid sequence of SEQ ID NO:2;

(b) the amino acid sequence of SEQ ID NO:2 from amino acids 24 to 422;

(c) the amino acid sequence of SEQ ID NO:2 from amino acids 24 to 365;

(d) the amino acid sequence of SEQ ID NO:2 from amino acids 391 to 422;

(e) the amino acid sequence of SEQ ID NO:2 from amino acids 102 to 422;

(f) the amino acid sequence of SEQ ID NO:2 from amino acids 102 to 365;

(g) the amino acid sequence of SEQ ID NO:2 from amino acids 24 to 359;

(h) the amino acid sequence of SEQ ID NO:2 from amino acids 24 to 345;

(i) the amino acid sequence of SEQ ID NO:2 from amino acids 24 to 324; and

(j) fragments of (a)-(i) having a biological activity of the human IL-11 receptor.

14. The protein of claim 13 comprising the amino acid sequence of SEQ ID NO:2.

15. The protein of claim 13 comprising the sequence from amino acid 24 to 365 of SEQ ID NO:2.

16. A pharmaceutical composition comprising a protein of claim 13 and a pharmaceutically acceptable carrier.

17. A protein produced according to the process of claim 12.

18. A composition comprising an antibody which specifically reacts with a protein of claim 13.

19. A method of identifying an inhibitor of IL-11 binding to the human IL-11 receptor which comprises:

(a) combining a protein of claim 13 with IL-11 or a fragment thereof, said combination forming a first binding mixture;

(b) measuring the amount of binding between the protein and the IL-11 or fragment in the first binding mixture;

(c) combining a compound with the protein and the IL-11 or fragment to form a second binding mixture;

(d) measuring the amount of binding in the second binding mixture; and

(e) comparing the amount of binding in the first binding mixture with the amount of binding in the second binding mixture;

wherein the compound is capable of inhibiting IL-11 binding to the human IL-11 receptor when a decrease in the amount of binding of the second binding mixture occurs.

20. The method of claim 19 wherein the first and second binding mixture comprise gp130 or a fragment thereof capable of binding to the protein of claim 13 or the IL-11 or fragment used therein.

21. An inhibitor identified by the method of claim 19.

22. A pharmaceutical composition comprising the inhibitor of claim 21 and a pharmaceutically acceptable carrier.

23. A method of inhibiting binding of IL-11 to the human IL-11 receptor in a mammalian subject, said method comprising administering a therapeutically effective amount of a composition of claim 22.

24. A method of inhibiting binding of IL-11 to the human IL-11 receptor in a mammalian subject, said method comprising administering a therapeutically effective amount of a composition of claim 16.

25. A method of inhibiting binding of IL-11 to the human IL-11 receptor in a mammalian subject, said method comprising administering a therapeutically effective amount of a composition of claim 18.

26. A method of treating or preventing loss of bone mass in a mammalian subject, said method comprising administering a therapeutically effective amount of a composition of claim 22.

27. A method of treating or preventing loss of bone mass in a mammalian subject, said method comprising administering a therapeutically effective amount of a composition of claim 16.

28. A method of treating or preventing loss of bone mass in a mammalian subject, said method comprising administering a therapeutically effective amount of a composition of claim 18.

29. An isolated polynucleotide comprising a nucleotide sequence capable of hybridizing under stringent conditions to polynucleotide of claim 4.

30. An isolated polynucleotide comprising a nucleotide sequence encoding a peptide or protein comprising an amino acid sequence selected from the group consisting of:

(a) the amino acid sequence of SEQ ID NO:2;

(b) the amino acid sequence of SEQ ID NO:2 from amino acids 24 to 422;

(c) the amino acid sequence of SEQ ID NO:2 from amino acids 24 to 365;

(d) the amino acid sequence of SEQ ID NO:2 from amino acids 391 to 422;

(e) the amino acid sequence of SEQ ID NO:2 from amino acids 112 to 422;

(f) the amino acid sequence of SEQ ID NO:2 from amino acids 112 to 365;

(g) the amino acid sequence of SEQ ID NO:2 from amino acids 24 to 359;

(h) the amino acid sequence of SEQ ID NO:2 from amino acids 24 to 345;

(i) the amino acid sequence of SEQ ID NO:2 from amino acids 24 to 324; and

(j) fragments of (a)-(i) having a biological activity of the human IL-11 receptor.

31. The polynucleotide of claim 2 comprising the nucleotide sequence of SEQ ID NO:1 from nucleotide 734 to nucleotide 1828.

32. The polynucleotide of claim 2 comprising the nucleotide sequence of SEQ ID NO:1 from nucleotide 734 to nucleotide 1810.

33. The polynucleotide of claim 2 comprising the nucleotide sequence of SEQ ID NO:1 from nucleotide 734 to nucleotide 1768.

34. The polynucleotide of claim 2 comprising the nucleotide sequence of SEQ ID NO:1 from nucleotide 734 to nucleotide 1705.

35. The protein of claim 13 comprising an amino acid sequence beginning at amino acid 26 of SEQ ID NO:2.

36. The protein of claim 13 comprising an amino acid sequence beginning at amino acid 23 of SEQ ID NO:2.

37. The protein of claim 13 comprising an amino acid sequence beginning at amino acid 1 of SEQ ID NO:2.